

**CLIENT NAME: DEFENCE CONSTRUCTION CANADA
14 ALERT BLVD, 8 WING TRENTON
ASTRA, ON K0K3W0
(613) 392-2811**

ATTENTION TO: Chris McRae

PROJECT NO:

AGAT WORK ORDER: 13T735519

MICROBIOLOGY ANALYSIS REVIEWED BY: Inesa Alizarchyk, Inorganic Lab Supervisor

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

WATER ANALYSIS REVIEWED BY: Inesa Alizarchyk, Inorganic Lab Supervisor

DATE REPORTED: Jul 19, 2013

PAGES (INCLUDING COVER): 15

VERSION*: 3

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

***NOTES**

VERSION 3: Updated units for lead and phenol as per client's request
RDL revised for lead

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



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Certificate of Analysis

AGAT WORK ORDER: 13T735519

PROJECT NO:

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

Microbiological Analysis (water) FC

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

		SAMPLE DESCRIPTION:		ERK-1		ERK-4	ERK-5
		SAMPLE TYPE:		Water		Water	Water
		DATE SAMPLED:		7/6/2013		7/6/2013	7/6/2013
Parameter	Unit	G / S	RDL	4542322	RDL	4542354	4542363
Fecal Coliform	CFU/100mL		100	4100	1	ND	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
4542322 RDL >1 indicates dilutions of the sample.

4542354-4542363 ND - Not Detected.

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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

(P & T) - BTEX - Water (GC/MS)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

SAMPLE DESCRIPTION: ERK-2

SAMPLE TYPE: Water

DATE SAMPLED: 7/6/2013

Parameter	Unit	G / S	RDL	4542334
Benzene	µg/L		0.20	<0.20
Toluene	µg/L		0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20
o-Xylene	µg/L		0.10	<0.10
Xylene Mixture (Total)	µg/L		0.20	<0.20

Surrogate	Unit	Acceptable Limits
Toluene-d8	% Recovery	60-130 96
4-Bromofluorobenzene	% Recovery	70-130 90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to T1(All-GW)
4542334 Results relate only to the items tested.

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O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

		SAMPLE DESCRIPTION:		ERK-4	ERK-5
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		7/6/2013	7/6/2013
Parameter	Unit	G / S	RDL	4542354	4542363
Naphthalene	µg/L		0.20	<0.20	<0.20
Acenaphthylene	µg/L		0.20	<0.20	<0.20
Acenaphthene	µg/L		0.20	<0.20	<0.20
Fluorene	µg/L		0.20	<0.20	<0.20
Phenanthrene	µg/L		0.10	<0.10	<0.10
Anthracene	µg/L		0.10	<0.10	<0.10
Fluoranthene	µg/L		0.20	<0.20	<0.20
Pyrene	µg/L		0.20	<0.20	<0.20
Benz(a)anthracene	µg/L		0.20	<0.20	<0.20
Chrysene	µg/L		0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L		0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L		0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L		0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L		0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L		0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L		0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits			
Chrysene-d12	%	50-140	61	68	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4542354-4542363 Note: The result for Benzo(b)Flouranthene is the total of the Benzo(b)&(j)Flouranthene isomers because the isomers co-elute on the GC column.

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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

		SAMPLE DESCRIPTION:		ERK-4	ERK-5
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		7/6/2013	7/6/2013
Parameter	Unit	G / S	RDL	4542354	4542363
Benzene	µg/L		0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10	<0.10
Xylene Mixture	µg/L		0.20	<0.20	<0.20
F1 (C6 to C10)	µg/L		25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25
F2 (C10 to C16)	µg/L		100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100
F3 (C16 to C34)	µg/L		100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100
F4 (C34 to C50)	µg/L		100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA
Surrogate	Unit	Acceptable Limits			
Terphenyl	%		60-140	103	80

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard**4542354-4542363** The C6-C10 fraction is calculated using Toluene response factor.

The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.

Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.

Total C6-C50 results are corrected for BTEX and PAH contributions.

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

nC6 and nC10 response factors are within 30% of Toluene response factor.

nC10, nC16 and nC34 response factors are within 10% of their average.

C50 response factor is within 70% of nC10 + nC16 nC34 average.

Linearity is within 15%.

Extraction and holding times were met for this sample.

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Oil and Grease [water]

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

		SAMPLE DESCRIPTION:		ERK-1	ERK-2	ERK-4	ERK-5
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		7/6/2013	7/6/2013	7/6/2013	7/6/2013
		G / S	RDL	4542322	4542334	4542354	4542363
Parameter	Unit						
Oil and Grease (animal/vegetable)	mg/L		0.5	0.6	1.2	<0.5	<0.5
Oil and Grease (mineral) in water	mg/L		0.5	<0.5	<0.5	<0.5	<0.5
Oil and Grease (Total) in water	mg/L		0.5	0.6	1.2	<0.5	<0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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ATTENTION TO: Chris McRae

Inorganic Chemistry (Water)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

		SAMPLE DESCRIPTION:		ERK-4		ERK-5	
		SAMPLE TYPE:		Water		Water	
		DATE SAMPLED:		7/6/2013		7/6/2013	
Parameter	Unit	G / S	RDL	4542354	RDL	4542363	
BOD (5)	mg/L		5	<5	5	<5	
Electrical Conductivity	uS/cm		2	2590	2	1430	
pH	pH Units		NA	7.79	NA	7.74	
Total Suspended Solids	mg/L		10	<10	10	109	
Total Hardness (as CaCO ₃)	mg/L		10	702	10	354	
Alkalinity (as CaCO ₃)	mg/L		5	76	5	45	
Nitrate as N	mg/L		1.0	<1.0	0.5	0.60	
Nitrite as N	mg/L		1.0	<1.0	0.5	<0.5	
Sulphate	mg/L		2.0	483	1.0	194	
Ammonia as N	mg/L		0.02	<0.02	0.02	<0.02	
Phenols	mg/L		0.001	0.002	0.001	<0.001	
Chemical Oxygen Demand	mg/L		5	27	5	12	
Calcium	mg/L		0.05	188	0.05	72.9	
Magnesium	mg/L		0.05	56.4	0.05	41.8	
Sodium	mg/L		0.05	244	0.05	119	
Potassium	mg/L		0.05	15.3	0.05	4.37	
Arsenic	mg/L		0.003	<0.003	0.003	<0.003	
Cadmium	mg/L		0.002	<0.002	0.002	<0.002	
Chromium	mg/L		0.003	<0.003	0.003	<0.003	
Copper	mg/L		0.003	<0.003	0.003	<0.003	
Iron	mg/L		0.010	0.135	0.010	0.201	
Lead	ug/L		0.5	<0.5	0.5	<0.5	
Mercury	mg/L		0.0001	<0.0001	0.0001	<0.0001	
Nickel	mg/L		0.003	<0.003	0.003	<0.003	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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ATTENTION TO: Chris McRae

Phenols & Lead (Water)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

SAMPLE DESCRIPTION: ERK-2

SAMPLE TYPE: Water

DATE SAMPLED: 7/6/2013

Parameter	Unit	G / S	RDL	4542334
Phenols	ug/L		1	<1
Lead	ug/L		0.5	0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

pH, TSS, BOD, COD (Water)

DATE RECEIVED: 2013-07-12

DATE REPORTED: 2013-07-19

SAMPLE DESCRIPTION: ERK-1

SAMPLE TYPE: Water

DATE SAMPLED: 7/6/2013

Parameter	Unit	G / S	RDL	4542322
BOD (5)	mg/L		5	136
pH	pH Units		NA	8.74
Total Suspended Solids	mg/L		10	370
Chemical Oxygen Demand	mg/L		5	801

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 13T735519

PROJECT NO:

ATTENTION TO: Chris McRae

Microbiology Analysis

RPT Date: Jul 19, 2013			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE			MATRIX SPIKE			
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Microbiological Analysis (water) FC

Fecal Coliform	1		ND	ND	NA	< 1	NA			NA			NA		
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Comments: ND - Not Detected, ; NA - % RPD Not Applicable
NA - Not Applicable

Certified By:



Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 13T735519

PROJECT NO:

ATTENTION TO: Chris McRae

Trace Organics Analysis

RPT Date: Jul 19, 2013			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE			MATRIX SPIKE			
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Oil and Grease [water]

Oil and Grease (animal/vegetable)	1		< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	111%	70%	130%	NA	70%	130%
Oil and Grease (mineral) in water	1		< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	86%	70%	130%	NA	70%	130%
Oil and Grease (Total) in water	1		< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	98%	70%	130%	NA	70%	130%

(P & T) - BTEX - Water (GC/MS)

Benzene	1		< 0.20	< 0.20	0.0%	< 0.20	111%	60%	130%	110%	60%	130%	112%	60%	130%
Toluene	1		< 0.20	< 0.20	0.0%	< 0.20	101%	60%	130%	94%	60%	130%	96%	60%	130%
Ethylbenzene	1		< 0.10	< 0.10	0.0%	< 0.10	94%	60%	130%	90%	60%	130%	96%	60%	130%
m & p-Xylene	1		< 0.20	< 0.20	0.0%	< 0.20	96%	60%	130%	92%	60%	130%	94%	60%	130%
o-Xylene	1		< 0.10	< 0.10	0.0%	< 0.10	87%	60%	130%	80%	60%	130%	81%	60%	130%
Xylene Mixture (Total)	1		< 0.20	< 0.20	0.0%	< 0.20	92%	60%	130%	86%	60%	130%	88%	60%	130%

O. Reg. 153(511) - PAHs (Water)

Naphthalene	1		< 0.20	< 0.20	0.0%	< 0.20	98%	50%	140%	77%	50%	140%	76%	50%	140%
Acenaphthylene	1		< 0.20	< 0.20	0.0%	< 0.20	82%	50%	140%	67%	50%	140%	70%	50%	140%
Acenaphthene	1		< 0.20	< 0.20	0.0%	< 0.20	94%	50%	140%	76%	50%	140%	75%	50%	140%
Fluorene	1		< 0.20	< 0.20	0.0%	< 0.20	89%	50%	140%	76%	50%	140%	78%	50%	140%
Phenanthrene	1		< 0.10	< 0.10	0.0%	< 0.10	91%	50%	140%	80%	50%	140%	82%	50%	140%
Anthracene	1		< 0.10	< 0.10	0.0%	< 0.10	84%	50%	140%	75%	50%	140%	77%	50%	140%
Fluoranthene	1		< 0.20	< 0.20	0.0%	< 0.20	81%	50%	140%	72%	50%	140%	77%	50%	140%
Pyrene	1		< 0.20	< 0.20	0.0%	< 0.20	81%	50%	140%	74%	50%	140%	76%	50%	140%
Benz(a)anthracene	1		< 0.20	< 0.20	0.0%	< 0.20	58%	50%	140%	NA	50%	140%	65%	50%	140%
Chrysene	1		< 0.10	< 0.10	0.0%	< 0.10	94%	50%	140%	71%	50%	140%	75%	50%	140%
Benzo(b)fluoranthene	1		< 0.10	< 0.10	0.0%	< 0.10	100%	50%	140%	92%	50%	140%	82%	50%	140%
Benzo(k)fluoranthene	1		< 0.10	< 0.10	0.0%	< 0.10	128%	50%	140%	123%	50%	140%	88%	50%	140%
Benzo(a)pyrene	1		< 0.01	< 0.01	0.0%	< 0.01	88%	50%	140%	73%	50%	140%	76%	50%	140%
Indeno(1,2,3-cd)pyrene	1		< 0.20	< 0.20	0.0%	< 0.20	58%	50%	140%	78%	50%	140%	64%	50%	140%
Dibenz(a,h)anthracene	1		< 0.20	< 0.20	0.0%	< 0.20	99%	50%	140%	87%	50%	140%	65%	50%	140%
Benzo(g,h,i)perylene	1		< 0.20	< 0.20	0.0%	< 0.20	116%	50%	140%	101%	50%	140%	69%	50%	140%

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

Benzene	1		< 0.20	< 0.20	0.0%	< 0.20	105%	50%	140%	88%	60%	130%	82%	50%	140%
Toluene	1		< 0.20	< 0.20	0.0%	< 0.20	103%	50%	140%	85%	60%	130%	81%	50%	140%
Ethylbenzene	1		< 0.10	< 0.10	0.0%	< 0.10	100%	50%	140%	85%	60%	130%	107%	50%	140%
Xylene Mixture	1		< 0.20	< 0.20	0.0%	< 0.20	95%	50%	140%	92%	60%	130%	95%	50%	140%
F1 (C6 to C10)	1		< 25	< 25	0.0%	< 25	83%	60%	140%	87%	60%	140%	82%	60%	140%
F2 (C10 to C16)	1	4542363	< 100	< 100	0.0%	< 100	109%	60%	140%	61%	60%	140%	66%	60%	140%
F3 (C16 to C34)	1	4542363	< 100	< 100	0.0%	< 100	126%	60%	140%	81%	60%	140%	70%	60%	140%
F4 (C34 to C50)	1	4542363	< 100	< 100	0.0%	< 100	126%	60%	140%	95%	60%	140%	80%	60%	140%

Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 13T735519

PROJECT NO:

ATTENTION TO: Chris McRae

Trace Organics Analysis (Continued)

RPT Date: Jul 19, 2013			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE			MATRIX SPIKE			
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:



Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 13T735519

PROJECT NO:

ATTENTION TO: Chris McRae

Water Analysis															
RPT Date: Jul 19, 2013			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
pH, TSS, BOD, COD (Water)															
BOD (5)	1		< 5	< 5	0.0%	< 5	100%	75%	125%	NA	0%	0%	NA	0%	0%
pH	4542354	4542354	7.79	7.83	0.5%	NA	99%	90%	110%	NA			NA		
Total Suspended Solids	1		< 10	< 10	0.0%	< 10	104%	80%	120%	NA	0%	0%	NA	0%	0%
Chemical Oxygen Demand	1		< 5	< 5	0.0%	< 5	99%	90%	110%	107%	90%	110%	112%	70%	130%
Inorganic Chemistry (Water)															
Alkalinity (as CaCO3)	4542354	4542354	76	76	0.1%	< 5	96%	80%	120%	NA			NA		
Nitrate as N	1		< 0.05	< 0.05	0.0%	< 0.05	90%	90%	110%	103%	90%	110%	103%	80%	120%
Nitrite as N	1		< 0.05	< 0.05	0.0%	< 0.05	NA	90%	110%	94%	90%	110%	105%	80%	120%
Sulphate	1		13.6	13.8	1.5%	< 0.10	95%	90%	110%	96%	90%	110%	101%	80%	120%
Ammonia as N	4542694		0.02	0.02	0.0%	< 0.02	101%	90%	110%	103%	90%	110%	95%	80%	120%
Calcium	1		77.1	77.4	0.4%	< 0.05	103%	90%	110%	103%	90%	110%	99%	70%	130%
Magnesium	1		22.1	22.3	0.9%	< 0.05	103%	90%	110%	103%	90%	110%	100%	70%	130%
Sodium	1		5.18	5.17	0.2%	< 0.05	100%	90%	110%	100%	90%	110%	97%	70%	130%
Potassium	1		1.79	1.80	0.6%	< 0.05	100%	90%	110%	102%	90%	110%	97%	70%	130%
Arsenic	1		0.004	0.004	0.0%	< 0.003	96%	90%	110%	98%	90%	110%	99%	70%	130%
Cadmium	1		< 0.002	< 0.002	0.0%	< 0.002	99%	90%	110%	107%	90%	110%	109%	70%	130%
Chromium	1		< 0.003	< 0.003	0.0%	< 0.003	100%	90%	110%	107%	90%	110%	103%	70%	130%
Copper	1		0.006	0.006	0.0%	< 0.003	102%	90%	110%	105%	90%	110%	100%	70%	130%
Iron	1		0.121	0.131	7.9%	< 0.010	97%	90%	110%	109%	90%	110%	103%	70%	130%
Lead	1		< 0.5	< 0.5	0.0%	< 0.5	104%	90%	110%	107%	90%	110%	108%	70%	130%
Mercury	1		< 0.0001	< 0.0001	0.0%	< 0.0001	99%	90%	110%	99%	90%	110%	101%	80%	120%
Nickel	1		< 0.003	< 0.003	0.0%	< 0.003	104%	90%	110%	109%	90%	110%	102%	70%	130%
Phenols & Lead (Water)															
Phenols	4546808		< 1	< 1	0.0%	< 1	106%	90%	110%	100%	90%	110%	98%	80%	120%
Lead	1	4542334	0.5	0.5	0.0%	<0.5	104%	90%	110%	107%	90%	110%	108%	70%	130%

Comments: NA signifies not applicable

Certified By:



Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA
AGAT WORK ORDER: 13T735519
PROJECT NO:
ATTENTION TO: Chris McRae

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Fecal Coliform	MIC-93-7000	SM 9222 D	MF/INCUBATOR
Trace Organics Analysis			
Benzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Toluene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
o-Xylene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Xylene Mixture (Total)	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene-d12	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Toluene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Xylene Mixture	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
F1 (C6 to C10)	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	MOE PHC E3421	GC/FID
F4 (C34 to C50)	VOL-91- 5010	MOE PHC- E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5010		GC/FID
Oil and Grease (animal/vegetable)	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC
Oil and Grease (mineral) in water	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC
Oil and Grease (Total) in water	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC

Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA
AGAT WORK ORDER: 13T735519
PROJECT NO:
ATTENTION TO: Chris McRae

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
BOD (5)	INOR-93-6006	SM 5210 B	DO METER
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE
Total Suspended Solids	INOR-93-6028	SM 2540 D	BALANCE
Total Hardness (as CaCO ₃)	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Alkalinity (as CaCO ₃)	INOR-93-6000	SM 2320 B	PC TITRATE
Nitrate as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-93-6002	AQ2 EPA-103A & SM 4500 NH ₃ -F	AQ-2 DISCRETE ANALYZER
Phenols	INOR-93-6050	MOE ROPHEN-E 3179 & SM 5530 D	TECHNICON AUTO ANALYZER
Chemical Oxygen Demand	INOR-93-6042	SM 5220 D	SPECTROPHOTOMETER
Calcium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Magnesium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Sodium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Potassium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Iron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Mercury	MET-93-6100	EPA SW 846 7470 & 245.1	CVAAS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Phenols	INOR-93-6050	MOE ROPHEN-E 3179 & SM 5530 D	TECHNICON AUTO ANALYZER
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
BOD (5)	INOR-93-6006	SM 5210 B	DO METER
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE
Total Suspended Solids	INOR-93-6028	SM 2540 D	BALANCE
Chemical Oxygen Demand	INOR-93-6042	SM 5220 D	SPECTROPHOTOMETER



Laboratories

www.agatlabs.com • webearth.agatlabs.com

5835 Coopers Avenue
Mississauga, ON
L4Z 1Y2

Chain of Custody Record

P: 905.712.5100 • F: 905.712.5122 • TF: 800.856.6261

Client Information

Company: PEC
Contact: Cass McPherson
Address: _____
Phone: _____ Fax: _____
Project: _____ PO: _____
AGAT Quotation #: _____
Please note, if quotation number is not provided,
client will be billed full price for analysis.

Regulatory Requirements

☐ Regulation 153/04
(reg. 51.1 Amend.)
Table _____
Indicate one
☐ Ind/Com
☐ Res/Park
☐ Agriculture
☐ Sewer Use
Region _____
Indicate one
☐ Sanitary
☐ Storm
☐ Regulation 558
☐ CCME
☐ Other (specify) _____
☒ Prov. Water Quality
Objectives (PWQO)
☒ None
☐ Coarse ☐ Fine

Invoice To

Company: _____ Same: Yes ☐ No ☐
Contact: _____
Address: _____

Legend Matrix

GW Ground Water **O** Oil
SW Surface Water **P** Paint
SD Sediment **S** Soil

Report Information, - reports to be sent to:

1. Name: Chris Merae
Email: _____
2. Name: ANDREW TAN
Email: andrew.tan@forces.gc.ca

Is this a drinking water sample?
(potable water intended for human consumption)
☐ Yes ☐ No
If "Yes", please use the
Drinking Water Chain of Custody Form

Is this submission for a Record of Site Condition?
☐ Yes ☐ No

Sample Identification

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Site/Sample Information	Comments	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ B-HWS ☐ Cl- ☐ CN- ☐ EC ☐ FOC ☐ Cr+6- ☐ SAR ☐ NO ₃ /NO ₂ ☐ N- Total ☐ Hg ☐ pH	Nutrients: ☐ TP ☐ NH ₃ ☐ TKN ☐ NO ₃ ☐ NO ₂ ☐ NO ₃ /NO ₂	VOC: ☐ VOC ☐ THM ☐ BTEX	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use
ERK-1	6 JUL 13		SW																		
ERK-2			SW																		
ERK-4			SW																		
ERK-5			SW																		

See Attached documents
for Analysis ERK-1, ERK-2, ERK-4, ERK-5

* all lead analysis to be @ 10L O.O.O. only

Samples Relinquished By (Print Name and Sign):

ANDREW TAN andrew.tan 6 JUL 13

Samples Received By (Print Name and Sign):

MAKEA JUL 11 5

Pink Copy: Client
Yellow Copy: AGAT
White Copy: AGAT

Page _____ of _____
No: 195981

Laboratory Use Only

Arrival Temperature: 4.8, 9.9, 11.4, 16.3
AGAT WO #: 137735519
Lab Temperature: 137735519
Notes: _____

Turnaround Time Required (TAT) Required*

Regular TAT
☒ 5 to 7 Working Days
Rush TAT (please provide prior notification)
Rush Surcharges Apply
☐ 3 Working Days
☐ 2 Working Days
☐ 1 Working Day
OR
Date Required (Rush surcharges may apply): _____

*TAT is exclusive of weekends and statutory holidays